

TUSHAR SINGLA

tusharsingla10389@gmail.com — linkedin.com/in/tusharinqueue — github.com/tusharinqueue

EDUCATION

Chitkara University

Expected 2029

B.E. in Computer Science, Specialization in Artificial Intelligence & Machine Learning

CGPA: 9.7/10

Relevant Coursework: Data Structures & Algorithms (DSA), Database Management Systems (DBMS), Artificial Intelligence & Machine Learning (AI/ML), Data Science, Full-Stack Web Development, Object-Oriented Programming, Statistics & Probability, Operating Systems, Computer Networks

EXPERIENCE

Freelance ML/Web Scraping Intern — Legal Tech Client

Remote

- Built machine learning and web scraping components for a legal-domain data project as an independent freelance contractor.

LEADERSHIP & ACTIVITIES

Open Source Chandigarh — Core Team Member

- Joined the core team as a freshman and organized **CS101 workshops** introducing students to computer science fundamentals, career paths, and technology.
- Organized **Linux Unlocked** workshops teaching students Linux installation, its benefits, terminal fundamentals, and essential Linux commands.

ISTE (Indian Society of Technical Education) — Technical Lead

- Organized **IdeaIgnite Ideathon** for **1,000+ students**, contributing to technical planning, execution, and student engagement.
- Organized a **5-day research workshop** introducing students to LaTeX, research workflows, and academic tools, with guest lecturers and researchers sharing practical research insights.

NexeraAI — Founding Member, Technical & Organizing Team

- Co-founded **NexeraAI** with peers and contributed across technical development, event planning, and organizational initiatives.
- Developed the theme and startup-focused format for the university's upcoming **Shark Tank Hackathon**; invited CEOs and investors to provide students with real-world exposure to pitching and entrepreneurship.
- Oversee hackathon planning and execution, assign responsibilities across the organizing team, and coordinate event operations for an expected **2,000+ students**.

PROJECTS & TECHNICAL CONTRIBUTIONS

Signova — Accessibility-Focused Sign-to-Speech Platform

GitHub

- Built a real-time accessibility platform enabling communication through sign-to-text, speech-to-text, and text-to-speech.
- Developed and integrated a **custom-trained sign recognition model with a MediaPipe hand-landmark pipeline** for real-time gesture detection.
- Implemented multilingual translation, live captions, text-to-speech, accessibility-focused UI, and QR-based transcript sharing.
- **Tech:** Python, MediaPipe, Custom ML Model, React, Next.js, Web Speech API

Retrieval-Augmented Generation (RAG) Pipeline

Personal Project

- Built an end-to-end RAG pipeline covering document loading, chunking, vector storage, retrieval, and LLM-based response generation.
- Rebuilt the pipeline using raw provider SDKs instead of LangChain to gain direct control over retrieval logic, prompting, cost, and latency.
- **Tech:** Python, OpenAI SDK, Embeddings, Vector Search, RAG

TachiMate — Offline-First AI Micro-Learning App

GitHub

- Built an offline, on-device learning application that generates structured curricula and chapter content using a local LLM through Ollama.
- Implemented on-demand chapter generation, async prefetching, Markdown/Mermaid rendering, and native text-to-speech.
- Designed persistent offline sessions using IndexedDB with JSON export/import for cross-device migration.
- Placed in the **Top 5** at the Eclipse Hackathon, Thapar University.

LexiSummarize — AI Legal Document Analyzer

Brainwave 6.0, DTU — 2nd Place

- Contributed to the development and hackathon implementation of **LexiSummarize**, an AI legal-document analysis

product founded and owned by a teammate.

- Contributed to document summarization, key-clause extraction, and **LLM-based risk classification** for contracts, NDAs, and court judgments.
- Worked on adapting and refining the product for the hackathon, where the team secured **2nd Place** at Brainwave 6.0.

TECHNICAL SKILLS

Languages: Python, Java, TypeScript, JavaScript, SQL

AI/ML: RAG, LLM Applications, OpenAI SDK, Ollama, PyTorch Fundamentals, NumPy, pandas, Embeddings, Vector Search, MediaPipe

Web/Backend: React, Next.js, FastAPI, PostgreSQL, SQLite, SQLAlchemy, REST APIs

Tools: Git/GitHub, Vite, Tailwind CSS, IndexedDB, Linux, LaTeX

ACHIEVEMENTS

- **2nd Place** — Brainwave 6.0 Hackathon, Delhi Technological University
- **Top 5** — Eclipse Hackathon, Thapar University